

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listing, of claims in the application:

#### Listing of Claims:

1. (Currently Amended) A method for monitoring a network state, the method comprising the steps of:

assigning, in a source system, a destination and a monitor period ~~to a module for monitoring a state of a network installed in a source area;~~

generating a specific packet for measuring a bandwidth and a degree of congestion of the network;

transmitting, from the source system, the specific packet through a network layer of the source system to a designated destination system;

returning the specific packet received by the destination system to the source ~~area~~ system; and

~~computing analyzing a message transmitted from the destination and measuring a bandwidth and a degree of congestion of the network using the returned specific packet; and~~

~~repeatedly performing the step of generating the packet and the following steps in every assigned monitor period during a predetermined time, thereby recognizing a network state.~~

2. (Currently Amended) The method according to claim 8 ~~[[1]]~~, wherein if the network in case that an error signal is detected occurs during the transmission of the specific packet at the transmitting step, the method further comprises ~~through the network layer to a designated destination, comprising the step~~ steps of:

~~detecting an error signal in the network operating system;~~  
~~transmitting an error message to the source system area; and~~  
~~analyzing the received error message to measure a bandwidth and a~~  
~~degree of congestion of the network, thereby recognizing a network state.~~

3. (Currently Amended) The method according to claim 1, wherein the bandwidth of the network is computed by dividing a ~~the size of the packet by~~ the difference between the time at which the specific packet is transmitted from the source system area and the time at which the specific packet message ~~transmitted from the destination system is~~ returned to received by the source system, by a size of the specific packet area.

4. (Currently Amended) The method according to claim 3 ~~[[1]]~~, wherein the degree of congestion of the network is computed based on the computed by ~~measuring a bandwidth and a packet loss amount or judging over whether an error has occurred.~~

5. (Currently Amended) The method according to claim 1, wherein in case that a destination is changed, the steps of the method for assigning a destination and a monitor period and the following steps are sequentially performed again.

6. (Cancelled)

7. (Cancelled)

8. (New) The method according to claim 1, further comprising:  
detecting, by the source system, a network error signal.

9. (New) The method according to claim 8, wherein in the detecting step, the generated network error signal is generated by a network operating system and transmitted to the source system over the network.

10. (New) The method according to claim 1, further comprising:  
repeating the generating step, the transmitting step, the returning step and the analyzing step in every assigned monitor period during a predetermined time.

11. (New) The method according to claim 1, wherein in the transmitting step, the specific packet is transmitted by an ICMP (internet control management protocol) of the source system.

12. (New) The method according to claim 11, wherein in the receiving step, the specific packet is returned by an ICMP of the destination system.

13. (New) The method according to claim 8, wherein the computing step is performed if the detecting step does not detect any network error signal during the transmission of the specific packet at the transmitting step.

14. (New) The method according to claim 1, wherein the network is either the Internet or an intranet.

15. (New) A system for monitoring a network state, the system comprising:

- a source device;
- a destination device; and
- a network;

wherein the source device generates a specific packet for measuring a bandwidth and a degree of congestion of the network, transmits the specific packet to the destination device through a network layer of the destination device, receives the specific packet returned by the destination device, and computes a bandwidth and a degree of congestion of the network using the returned specific packet.

16. (New) The system according to claim 15, wherein the source device sets monitor times such that the generation and transmission of the specific packet and the computing of the bandwidth and the degree of congestion of the network are performed in each monitor time for a predetermined time.

17. (New) The system according to claim 15, wherein the source device detects if there is any network error signal received, and if a network error signal is received, sends an error message to the destination device.

18. (New) The system according to claim 17, further comprising:  
a network operating system for transmitting the network error signal to the source device over the network.

19. (New) The system according to claim 15, wherein the source device includes an ICMP (internet control management protocol) module for transmitting the specific packet.

20. (New) The system according to claim 19, wherein the destination device includes an ICMP for returning the specific packet to the source device.

21. (New) The system according to claim 15, wherein the bandwidth of the network is computed by dividing a difference between the time at which the

specific packet is transmitted from the source device and the time at which the specific packet from the destination device is returned to the source device, by a size of the specific packet.

22. (New) The system according to claim 21, wherein the degree of congestion of the network is computed based on the computed bandwidth and a packet loss amount.